

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of forming a liquid crystal layer on a substrate, comprising:

preparing a liquid crystal material in a projecting portion;

applying an on voltage to a resonator during emitting of the liquid crystal material to generate a vibration so as to apply a pressure to the projecting portion to emit the liquid crystal material from the projecting portion, wherein the generated vibration is transmitted from the resonator to the projecting portion through a resonating plate;

moving the substrate in one direction; and

depositing the liquid crystal material from the projecting portion uniformly onto the substrate during the moving of the substrate in the one direction.

2. (Previously Presented) The method according to claim 1, wherein the projecting portion has a nozzle plate containing a plurality of orifices, the nozzle plate adjusting the applied pressure for emitting the liquid crystal material, the liquid crystal material being emitted through the plurality of orifices.

3. (Cancelled)

4. (Original) The method according to claim 1, wherein the liquid crystal material is emitted and deposited in a vacuum chamber.

5-6. (Cancelled)

7. (Previously Presented) The method according to claim 1, wherein the substrate has a black matrix under a sealed pattern.

8. (Original) The method according to claim 7, wherein the liquid crystal material start and stop is deposited on the black matrix.

9. (Previously Presented) An apparatus for forming a liquid crystal layer on a substrate, comprising:

a projecting portion for emitting a liquid crystal material;

a resonator for generating a vibration upon application of an on voltage to the resonator during emitting of the liquid crystal material;

a resonating plate located between the resonator and the projecting portion for transmitting the vibration to the projecting portion so as to apply a pressure to the projecting portion to emit the liquid crystal material from the projecting portion; and

a stage for moving the substrate in one direction during emitting of the liquid crystal material from the projecting portion uniformly onto the substrate.

10. (Previously Presented) The apparatus according to claim 9, wherein the projecting portion has a nozzle plate containing a plurality of orifices, the nozzle plate adjusting the applied

pressure for emitting the liquid crystal material, the liquid crystal material being emitted through the plurality of orifices.

11. (Cancelled)

12. (Previously Presented) The apparatus according to claim 9, wherein means is provided for moving the stage.

13. (Original) The apparatus according to claim 9, further comprising a vacuum chamber for encompassing the projecting portion, the resonator and the resonating plate.

14. (Previously Presented) The apparatus according to claim 9, wherein means is provided for generating vibration in the resonator.

15. (Previously Presented) The method according to claim 1, wherein the on voltage is applied according to a position of the moving substrate.

16. (Previously Presented) The apparatus of claim 9, wherein means is provided for applying the on voltage according to a position of the moving substrate.

17. (Previously Presented) The method according to claim 1, wherein the liquid crystal material is emitted from the projecting portion by only the pressure applied to the projecting portion.

18. (Previously Presented) The method according to claim 1, wherein the liquid crystal material is emitted from the projecting portion by the pressure applied to the projecting portion without applying an electric field to the liquid crystal material during emitting of the liquid crystal material.

19. (Previously Presented) The apparatus according to claim 9, wherein the liquid crystal material is emitted from the projecting portion by only the pressure applied to the projecting portion.

20. (Previously Presented) The apparatus according to claim 9, wherein the liquid crystal material is emitted from the projecting portion by the pressure applied to the projecting portion without applying an electric field to the liquid crystal material during emitting of the liquid crystal material.

21. (New) The method according to claim 1, further comprising placing the resonating plate between the resonator and the projecting portion such that a first surface of the resonating plate is in contact with the resonator and a second surface of the resonating plate is in contact with an upper surface of the projecting portion.

22. (New) The method according to claim 21, wherein the resonating plate is spaced apart from the liquid crystal material by the projecting portion.

23. (New) The apparatus according to claim 9, wherein a first surface of the resonating plate is in contact with the resonator and a second surface of the resonating plate is in contact with an upper surface of the projecting portion.

24. (New) The apparatus according to claim 23, wherein the resonating plate is spaced apart from the liquid crystal material by the projecting portion.